

REMARKS

Claim 20 is amended to more particularly point out that the conductive bonding agent is placed onto the first conductive pad spaced apart from the through-hole, as shown in Fig. 4(b) with respect to spacing 50 between solder paste 36a and through-hole 14, and discussed at page 13, beginning at line 17.

Claim Rejection based upon McCoy et al.

Claims 20-22, 24 and 25 were rejected under 35 U.S.C. § 102(b) as anticipated by United States Patent No. 4,884,335, issued to McCoy et al. in 1989. Claim 23 was rejected under 35 U.S.C. § 103 as unpatentable over McCoy et al.

McCoy et al. discloses a method for attaching an electrical component 21 to a printed circuit board 20 using a solder strip 33A to bond pin contacts 31 to plated through-holes 34, see Figs. 2 and 9, and col. 7, lines 30-42. Pin contacts 31 are received in holes 104 of the solder strip, and the electrical component is arranged with the printed circuit board as shown in Fig. 8, after which the arrangement is heated to re-flow the solder, see col. 10, beginning at line 1. As shown in the figures, McCoy et al. provides contact between the pins and the solder strip, col. 9, lines 30-39. In this arrangement, the solder strip at least partially overlies the through-hole when the pin is inserted in preparation for re-flow. Moreover, during re-flow, solder flows along the pin to reach the

through-hole. In contrast, in Applicants' method, the solder paste is applied to the conductive pad apart from the through-hole and so is spaced apart from the pin when inserted into the through-hole, Figs. 4(b) and 4(c). By applying solder to the pad and avoiding contact with the pin, Applicants' method facilitates pin insertion, promotes solder flow into the through-hole during re-flow and produces a more aesthetically appealing product, page 14, lines 1-3. McCoy et al. does not show solder applied to the pad or spaced apart from the through-hole and pin. Thus, McCoy et al. does not teach or even suggest Applicants' invention.

Claim 20 is directed to Applicants' method of forming an electrical connection that includes, as key steps, placing conductive bonding agent on the first conductive pad spaced apart from the through-hole, placing the terminal into the through-hole and re-flowing the conductive bonding agent. McCoy et al. places the solder strip around the terminal on the component. Thus, McCoy does not anticipate or even suggest Applicants' method in claim 20.

Claims 21-25 are dependent upon claim 20 and recite additional features preferred in the practice of Applicants' method. Since McCoy et al. does not show the method of claim 20, it follows that it cannot show the method in the dependent claims. Further, attention is directed to claim 23 that calls for a stencil placed over the through-hole to prevent the conductive bonding agent from being placed in the through hole. McCoy et al. uses a solder pre-form and so does not point to a stencil.

Accordingly, it is respectfully requested that the rejection of claims 20-25 based upon McCoy et al. be reconsidered and withdrawn, and that the claims be allowed.

Conclusion

It is believed, in view of the amendments and remarks herein, that all grounds of rejection of the claims have been addressed and overcome, and that all claims are in condition for allowance. If it would further prosecution of the application, the Examiner is urged to contact the undersigned at the phone number provided.

The Commissioner is hereby authorized to charge any fees associated with this communication to Deposit Account No. 50-0831.

Respectfully submitted,



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